

Appl. No. 10/809,096
Amdt. dated March 22, 2005
Reply to Office Action of September 22, 2004

Listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1 (original): A golf ball comprising a syndiotactic 1,2-polybutadiene having a crystallinity between about 5% and about 50%, a mean molecular weight between about 10,000 and about 350,000, and a percentage of 1,2-bonds greater than about 70%.

Claim 2 (original): A golf ball as defined in claim 1, wherein the golf ball comprises a syndiotactic 1,2-polybutadiene having a crystallinity between about 10% and about 40%.

Claim 3 (original): A golf ball as defined in claim 2, wherein the golf ball comprises a syndiotactic 1,2-polybutadiene having a crystallinity between about 15% and about 30%.

Claim 4 (original): A golf ball as defined in claim 1, wherein the golf ball comprises a syndiotactic 1,2-polybutadiene having a mean molecular weight between about 50,000 and about 300,000.

Claim 5 (original): A golf ball as defined in claim 4, wherein the golf ball comprises a syndiotactic 1,2-polybutadiene having a mean molecular weight between about 80,000 and about 200,000.

Claim 6 (original): A golf ball as defined in claim 5, wherein the golf ball comprises a syndiotactic 1,2-polybutadiene having a mean molecular weight between about 100,000 and about 150,000.

Claim 7 (original): A golf ball as defined in claim 1, wherein the golf ball comprises a syndiotactic 1,2-polybutadiene having a percentage of 1,2-bonds greater than about 80%.

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Claim 8 (original): A golf ball as defined in claim 7, wherein the golf ball comprises a syndiotactic 1,2-polybutadiene having a percentage of 1,2-bonds greater than about 90%.

Claim 9 (original): A golf ball as defined in claim 1, further comprising UV stabilizers, photostabilizers, photoinitiators, co-initiators, antioxidants, colorants, dispersants, mold releasing agents, processing aids, inorganic fillers, organic fillers, or mixtures thereof.

Claim 10 (previously presented): A golf ball composition comprising:
a syndiotactic 1,2-polybutadiene having a crystallinity between about 5% and about 50%, a mean molecular weight between about 10,000 and about 350,000, and a percentage of 1,2-bonds of greater than about 70%; and
polymers selected from the group consisting of ionomeric polymers, non-ionomeric polymers, and mixtures thereof;
wherein the ratio by weight of the syndiotactic 1,2-polybutadiene to the polymers ranges between about 5:90 and about 90:5.

Claim 11 (previously presented): A golf ball composition as defined in claim 10, wherein the ratio by weight of the syndiotactic 1,2-polybutadiene to the polymers ranges between about 10:90 and about 80:20.

Claim 12 (previously presented): A golf ball composition as defined in claim 11, wherein the ratio by weight of the syndiotactic 1,2-polybutadiene to the polymers ranges between about 10:90 and about 70:30.

Claim 13 (original): A golf ball composition as defined in claim 10, wherein the ionomeric polymers comprise copolymeric polymers, terpolymeric polymers, or mixtures thereof.

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Claim 14 (original): A golf ball composition as defined in claim 10, further comprising a crosslinking agent, co-crosslinking agent, crosslinking accelerator, or mixtures thereof.

Claims 15-38 (canceled)

Claim 39 (previously presented): A golf ball comprising a cover layer and an intermediate layer wherein at least one of the cover layer and the intermediate layer includes a syndiotactic 1,2-polybutadiene having a crystallinity between about 5% and about 50%, a mean molecular weight between about 10,000 and about 350,000, and a percentage of 1,2-bonds greater than about 70%.

Claim 40 (previously presented): A golf ball comprising a cover layer and an intermediate layer wherein at least one of the cover layer and the intermediate layer includes:

a syndiotactic 1,2-polybutadiene having a crystallinity between about 5% and about 50%, a mean molecular weight between about 10,000 and about 350,000, and a percentage of 1,2-bonds of greater than about 70%;

polymers selected from the group consisting of ionomeric polymers, non-ionomeric polymers, and mixtures thereof; and

a crosslinking agent, co-crosslinking agent, crosslinking accelerator, or mixtures thereof;

wherein the ratio by weight of the syndiotactic 1,2-polybutadiene to the polymers ranges between about 5:90 and about 90:5, and the ratio by weight of the crosslinking agent to the syndiotactic 1,2-polybutadiene and the polymers ranges between about 0.1:100 and about 10:100.